

random bases can probe $4^9=262,144$ combinations. This strategy of junction sequencing by oligonucleotide arrays can be used in place of, or in parallel with, the hybridization technique described above. As information about the mouse genome sequence increases, this sequence tag approach will become increasingly useful in identifying insertions in known genes.

Following identification of ES cell clones with desired mutations, heterozygous and homozygous mutant mice are generated by the procedures described above.

Other Embodiments

The techniques described herein are applicable to the generation of mutations in any appropriate non-human mammal. In particular examples, the techniques are useful for generating libraries of gene mutations, ES cells, and transgenic animals in any mammal which may be used as a disease model or any domesticated animal including, but not limited to, rodents (for example, mice, rats, and guinea pigs), cows, sheep, goats, rabbits, and horses.

Other embodiments are within the following claims.

What is claimed is: